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NA—31—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New)

PHYSICS

Paper-III

(Heat and Thermodynamics)

(Saturday, 9-12-2023)

Time : 10.00 a.m. to 12.00 noon.

Time—2 Hours

Maximum Marks—40

N.B. :—All questions are compulsory.

1. Derive and explain van der Waal's equation of state. 15
Or
 - (a) Explain different types of thermometer. 8
 - (b) Give an expression for coefficient of thermal conductivity of gas. 7
2. Describe Joule-Thomson porous plug experiment in detail. 15
Or
 - (a) Differentiate between Centigrade and Fahrenheit scale 8
 - (b) Define mean free path and derive its expression. 7
3. Write short notes on any *two* (each of 5 marks) 10
 - (a) Celsius scale
 - (b) Critical constants
 - (c) Molecular collision
 - (d) Enthalpy.